



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

MAY 25 2011

OFFICE OF
COMPLIANCE AND ENFORCEMENT

Reply To: OCE-127

Certified Mail Number 7010 2780 0000 2171 9812
Return Receipt Requested

James A. Cagle, Risk Manager - EHS
Nu-West Industries, Inc.
Agrium Conda Phosphate Operations
3010 Conda Road
Soda Springs, Idaho 83276

Re: Additional Work Required under Administrative Order on Consent
Docket No. RCRA 10-2009-0186

Dear Mr. Cagle:

I promised to follow up our conference call on May 24, 2011 concerning EPA's May 11, 2011 Additional Work letter with a response on several points raised during the call by Agrium Nu-West and its representatives (collectively referred to as "Nu-West" in this letter).

Nu-West stated during the call that Electrical Resistivity Imaging (ERI) Time Domain Induced Polarization (TDIP) surveys are typically used in mineral processing applications where there is a metal-bearing geology; questioned the utility of performing TDIP at the Nu-West site; proposed to perform a pilot test along a limited portion of the ERI survey line; and then to evaluate those results before proceeding with the TDIP survey for remaining portions of the ERI survey line.

TDIP has been used for many years in groundwater investigations and to also evaluate the mineralogy of sites, particularly where there is the presence of clay layering within the underlying geology. I have provided several links below on resources to help illustrate this point. If desired, published literature on this topic can also be provided.

[http://www.epa.gov/esd/cmb/GeophysicsWebsite/pages/reference/methods/Surface Geophysical Methods/Electrical Methods/Induced Polarization.htm](http://www.epa.gov/esd/cmb/GeophysicsWebsite/pages/reference/methods/Surface_Geophysical_Methods/Electrical_Methods/Induced_Polarization.htm)

<http://www.zonge.com/FieldRPIP.html>

<http://wmr.sagepub.com/content/25/1/49.abstract>

http://www.baygeo.com/html/resistivity_and_induced_polarization.html

As you know, the various surface impoundments at the Nu-West site were constructed over the years utilizing different materials. The Tailings Pond number 3, which forms a portion of the "Old Gypsum Stack," was reportedly constructed on a layer of native clay. The type, age, and

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condition of each liner in place at the different surface impoundments vary. Gypsum has been moved around the site such that individual surface impoundment units now form one continuous gypsum stack. Given the complex hydrogeology at Nu-West and the variability in construction of these units, we anticipate that there will be differences in what the data will reveal from a well-conducted ERI TDIP survey along the gypsum stack as described in EPA's letter to Nu-West dated May 11, 2011. It is not possible to predict in advance of that survey as to which segments of the full ERI line may or may not reveal useful geophysical results. This is why EPA requested that the TDIP survey be conducted over the full length of the ERI line.

Additionally, the TDIP data can be gathered at the same time that the ERI Direct Current (DC) survey is performed. Rather than demobilize your work crew while Nu-West and EPA evaluate some initial TDIP survey results, it makes more sense to actually complete the survey and then later to evaluate both the DC Resistivity and TDIP results together.

EPA's letter to Nu-West dated May 11, 2011 directed that eight (8) boreholes in six (6) areas be advanced along seismic survey locations lines three, four, and five. Nu-West requested that two of these boreholes be installed with multiple completions into single borings, such that a total of only six borings be advanced in this area at the site. We have looked at both the Idaho state rules as well as to our own experience in Region 10 as to the viability of doing so.

EPA does not agree with the request to reduce the number of borings from which continuous cores are recovered. The core allows us to confirm the stratigraphic sequence at each boring location. They will allow us to confirm in the intact core what we see with all the geophysical tools we have proposed. The core will provide the only means to recover loose material which will only appear on the Televiwer Logs as voids. This initial series of borings will be very important as we work to evaluate the potential applicability of a zone of discharge. We are currently scoped at 18 borings. Upon collecting this initial set of borings and comparing it to the accompanying data, we will evaluate what we have learned. It may be possible for example, to reduce the number of cores that might otherwise be required at other locations of the site to complete the geophysical investigation. For this initial phase of work, I would point out that we do not yet know the variability of the stratigraphy, the continuity of fracture sets and rubble zones which we expect to be significant for potential contaminant transport in the basalt. The collection of cores in each of these co-located borings should add to our knowledge significantly as to the nearby continuity of the significant fractures and rubble zones. EPA does not expect the various flow units to be correlated over the proposed spacing of these wells along geologic strike. The only way to develop an opinion as to the continuity of fractures and flow units will be co-located borings. It is not possible to obtain this information from a single boring completed with multiple screens.

The State of Idaho monitoring well construction standards are available at <http://adm.idaho.gov/adminrules/rules/idapa37/0309.pdf>. IDAPA 37.03.09 specifies that the wells be constructed so as to "...preclude aquifer commingling." In a basalt aquifer such as that which underlies the majority of the Agrium site, the chance of constructing a multi-completion well in such a way that a fracture which has been exposed in one of the screen areas would not potentially be inadvertently connected to the other screen area would be impossible to demonstrate. The resulting commingling of chemistries as well as the alteration of hydraulic

heads would be very difficult to determine and could make our interpretation task considerably more difficult.

The area around the West Cooling Pond, where EPA directed the advancement of eight boreholes, is presumed to be located downgradient of the phosphogypsum stack system and is expected to be an area where geology is greatly complicated by the presence of a major fault. There is limited existing borehole geophysical data for this area. Having an accurate geophysical understanding of this area is necessary not only for completing the work required under the Administrative Order on Consent, but also to better inform all parties on questions related to the zone of discharge under a potential settlement. For these reasons, EPA is not persuaded and does not agree to reduce the number of borings so that eventual groundwater wells may be installed as multiple completions into single borings.

In summary, EPA does not believe that changes to the additional work called for in the EPA letter dated May 11, 2011, are necessary or appropriate. Nu-West requested a two week extension in time to submit a work plan for the additional work required under the Administrative Order on Consent. A two week extension for submittal of the work plan is granted. Our records indicate that Nu-West received EPA's letter on May 16, 2011. The new due date for the work plan is therefore June 30, 2011.

As discussed during the conference call, EPA believes it would be useful to have technical discussion on some of the key parts of the work plan, such as the Quality Control protocol for the geophysical work, in advance of work plan submittal to help ensure that the work plan that is submitted provides necessary information on the additional work. Nu-West agreed to share an interim draft work plan or outline on key aspects of the work with EPA in advance of the due date for the work plan submittal. This technical information exchange can be informal and could be done through e-mail and a conference call with technical staff. Please let me know as soon as possible as to when EPA can expect to see the interim draft work plan or outline

EPA remains available to answer any other questions that Nu-West might have in preparing a Work Plan for the additional work required as described EPA's May 11, 2011 letter.

Thank you for your attention to this important matter.

Sincerely,



Peter Magolske
Air/RCRA Compliance Unit

cc: Brian Monson,
Idaho Department of Environmental Quality

P. Scott Burton,
Hunton & Williams, LLP

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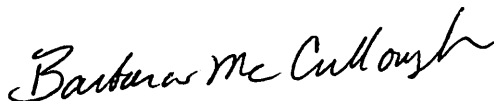
Sincerely,

Peter Magolske
Air/RCRA Compliance Unit

cc: Brian Monson,
Idaho Department of Environmental Quality

P. Scott Burton,
Hunton & Williams, LLP

bcc: Andrew Boyd
Curt Black
Kira Lynch
Sheila Fleming



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